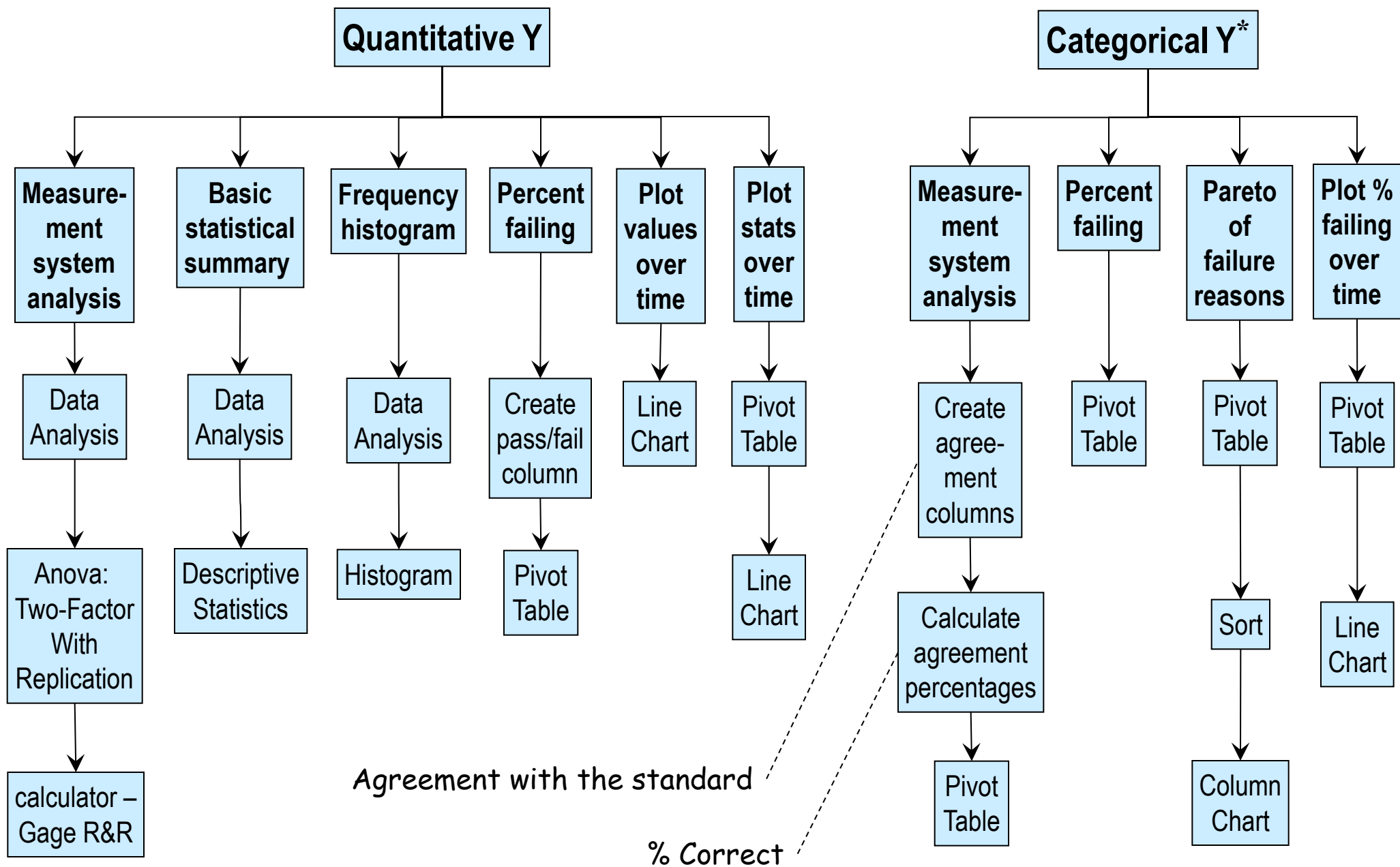


Excel Cheat Sheet – Tools for DMAIC



* Almost always this means pass-fail

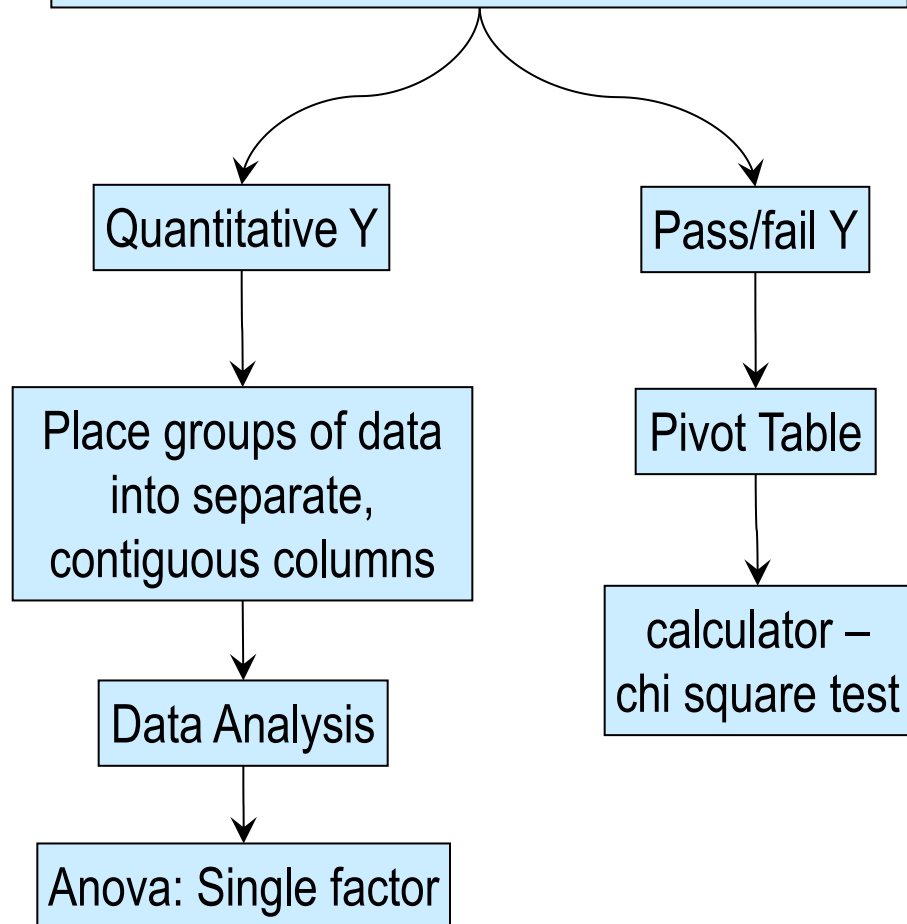
Excel Cheat Sheet – Calculators Summary

DMAIC Phase	Calculator <i>located in the Student Files folder</i>	Use when:	LSS GB Mod. #
Measure	<i>calculator</i> • <i>Normal distribution</i>	estimating population percentage /PPM out of spec for quantitative data	18
Measure	<i>calculator - sample size</i> • <i>MSA</i>	determining sample size for Measurement System Analysis	20 for quant. Y, 21 for cat. Y
Measure	<i>calculator - Gage R&R</i>	analyzing data from an MSA (used in conjunction w/ 'ANOVA-Two-Factor w/ Replication')	20
Measure	<i>calculator - sample size</i> • <i>% Defective</i> • <i>Pop. Mean for quant. Y</i>	determining sample size for establishing baseline values of project metrics for the Current State process	22
Analyze	<i>calculator - chi square test</i>	testing for statistical significance when comparing populations with categorical data	27, 29, 35
Improve	<i>calculator - sample size</i> • <i>Comparisons</i>	determining sample size for a pilot study of the Future State process	35
Improve	<i>calculator - margin of error - % Defective</i> <i>or Pop. Mean of quant. Y</i>	estimating the actual margin of error (95% confidence bounds) from the results of a pilot study of the Future State process	35
Control	<i>calculator - individual moving range chart</i>	Calculating control limits using the moving range method	37

Excel Cheat Sheet — Testing for Statistical Significance

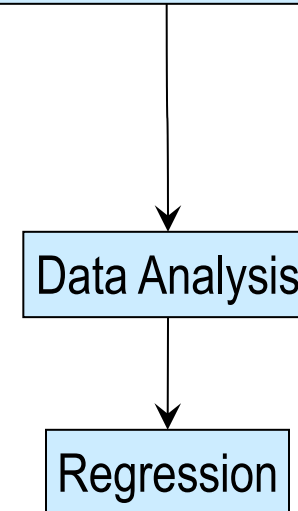
Stratification analysis or before/after comparison

- 2 or more groups of data are explicitly identified by a categorical X variable
- There are multiple data points in each group



Correlation analysis

- X and Y variables are both quantitative
- Don't need multiple Y values for each X value



Refer to LSS GB Modules 27, 28, 29, 35

Interpreting P values - “Statistical Standard of Evidence”

Probability of NO difference or correlation		Level of evidence that samples ARE different or variables ARE correlated	Confidence level (CL) for difference/correlation
P value	1.00	None	None
	0.15		
	0.05	Some	$85\% \leq CL < 95\%$
	0.01	Strong	$95\% \leq CL < 99\%$
	& lower toward zero	Very Strong	$CL \geq 99\%$